REMARKS

By this Amendment, Applicants amend claims 9, 24, 31, 39, 50, and 54 to correct minor informalities and to improve form and add new claims 61-65 to protect additional aspects of the invention. Claims 1-65 are therefore pending.

In the Office Action dated November 21, 2003[1] ("OA"):

1. Claims 1-15 were rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter;

2. Claims 1, 3, 4, 13, 16, 18, 19, 28, 31, 33, 34, 43, 46, 48, 49, and 58 were rejected under 35 U.S.C. § 102(b) as being anticipated by the *Bank Marketing International* article entitled "Are your customers profitable?" (PTO-892, Item W) ("*Bank Marketing*");

3. Claims 2, 5, 6, 14, 15, 17, 20, 21, 29, 30, 32, 35, 36, 44, 45, 47, 50, 51, 59, and 60 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Bank Marketing*, and further in view of U.S. Patent No. 6,411,936 to *Sanders* in view of *Canfield, R.V.*, "Cost Optimization of periodic preventive maintenance," (PTO-892 (paper #6), Item U) ("*Canfield*"); and

4. Claims 7-12, 22-27, 37-42, and 52-57 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Bank Marketing* in view of *Canfield* and further in view of *Sanders*.

The rejections set forth in the Office Action should be withdrawn for the reasons discussed below.

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[1] The Office Action contains a number of statements reflecting characterizations of the related art and the claims. Regardless of whether any such statement is identified herein, Applicants decline to automatically subscribe to any statement or characterization in the Office Action.

Rejection of claims 1-15 under 35 U.S.C. § 101

Applicants traverse the rejection of claims 1-15 under 35 U.S.C. § 101 because these claims are directed to the technological arts and produce useful, concrete, and tangible results.

In the Office Action (page 2), the Examiner sets forth the following two part test in rejecting claims 1-15: (1) "whether the invention is within the technological arts" and (2) "whether the invention produces a useful, concrete, and tangible result." The Examiner then alleges that independent claim 1 recites steps that "represent mere ideas in the abstract since they do not involve physical and/or computer means to carry them out." (OA, page 3) According to the Examiner, "[s]ince no physical and/or computer means are used to carry out the steps of the invention, [the claims] are...non-statutory. " (OA, page 3).

Without acquiescing that the Examiner's two-prong test[2] is in fact proper, Applicants submit that the process steps recited in claims 1-15 are statutory under 35 U.S.C. § 101.

As noted by the Federal Circuit,

> § 101 is broad and general; its language is: "any * * * process, machine, manufacture, or composition of matter, or any * * * improvement thereof." Section 100(b) further expands "process" to include "art or method, and * * * a new use of a known process...."

State Street Bank & Trust Co. v. Signature Fin. Group, Inc., 149 F.3d 1368, 1372. The three unpatentable categories include: "laws of nature, natural phenomena, and abstract ideas." Id. at 1373 (citations omitted).

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[2] Claims 1-15 are drawn to subject matter within the "technological arts." Applicants note that the Examiner does not clearly articulate whether the claimed subject matter is believed to be outside the technological arts. The Examiner merely mentions (OA, page 2) that "[m]ere ideas in the abstract...fail to promote the "progress of science and the useful art." It appears the Examiner is alleging that the claimed subject matter is not within the "technological arts" because it is abstract. Claims 1-15 are, however, not abstract (as discussed herein) and therefore, under the Examiner's own reasoning, within the "technological arts." The Examiner also reproduces (OA, page 11) the following language from *In re Toma* 197 U.S.P.Q. 852, 857: "[t]he 'technological' arts inquiry must focus on whether the claimed subject matter...is statutory." The subject matter recited in claims 1-15 is in fact statutory and therefore, under the Examiner's own reasoning again, within the "technological" arts.

The inquiry of whether a claim is statutory focuses on "the essential characteristics of the subject matter, in particular, its practical utility." *State Street Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368, 1375. According to the Federal Circuit, if a claim includes recitations that produce "a concrete, tangible and useful result," the claim is not abstract and has practical utility. *See State Street*, 149 F.3d at 1373, *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 1358. And, if the claim is not abstract and has practical utility, it is statutory under 35 U.S.C. § 101.

The Federal Circuit clearly articulated in *State Street* that "the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation." *See State Street*, 149 F.3d at 1601. In *AT&T Corp.*, the Federal Circuit explained that the same principles apply to method claims that do not recite a machine, stating "we consider the scope of Section 101 to be the same regardless of the form--machine or process--in which a particular claims is drafted." *AT & T Corp.* at 1357 (citations omitted). In *AT & T Corp.*, the court held that information representative of a call recipient's PIC, is "a useful, non-abstract result that facilitates differential billing of long-distance calls made by an IXC's subscriber." *Id.*

In this case, claims 1-15 clearly include processes that produce useful, concrete, and tangible results. The subject matter recited in claims 1-15 clearly has practical utility and is therefore statutory. For example, the process of evaluating customer value to guide loyalty and retention programs set forth in claims 1-15, provides, *inter alia*, a capability of generating a hazard function to determine customer churn probability and calculating a gain in lifetime value,

which are useful, concrete, and tangible results that facilitate a determination of a focus for loyalty and retention programs. Further, as explained in Applicants' specification[3] on page 19:

> [the gain in lifetime value may serve] as a guide for [a]... company's interactions with individual customers when their retention may depend on a modified pricing plan or concessions...[, and may become] the basis for segmenting customers into groups to which different retention efforts and concessions might be offered.

Claims 1-15 recite a transformation of data through a series of mathematical calculations to determine a focus for loyalty and retention programs, which clearly constitutes a practical application of a mathematical algorithm, formula, or calculation. Because claims 1-15 are drawn to useful, concrete, and tangible results, these claims have practical utility and are not abstract. These claims are therefore statutory.

The Examiner alleges that "no physical and/or computer means are used to carry out the steps of the invention." (Office Action, page 3). However, whether or not a process can be performed "without physical and/or computer means" is not dispositive of determining whether a claimed process is statutory. In fact, the Federal Circuit indicated that arguing that process claims are not patentable subject matter because they lack physical limitations "reflects a misunderstanding of...[the] case law." *AT&T*, F.3d at 1359.

The invention defined by claims 1-15 is useful at least because it provides a method for evaluating customer value to guide loyalty and retention programs. Accordingly, claims 1-15 are drawn to a useful, concrete, and tangible result, and are therefore not abstract but, rather,

[3] In referring to the specification, Applicants do not intend to limit the scope of the claims to the exemplary embodiments shown in the drawings and described in the specification. Rather, Applicants expressly affirm their entitlement to have the claims interpreted broadly, to the maximum extent permitted by statute, regulation, and applicable case law.

statutory under 35 U.S.C. § 101. Accordingly, the 35 U.S.C. § 101 rejection should be withdrawn.

<u>Rejection under 35 U.S.C. § 102(b)</u>

Applicants submit that claims 1, 3, 4, 13, 16, 18, 19, 28, 31, 33, 34, 43, 46, 48, 49, and 58 are not anticipated by *Bank Marketing*. In order to properly anticipate Applicants' claimed invention under 35 U.S.C. § 102(b), each and every element of the claim in issue must be found, either expressly described or under principles of inherency, in a single prior art reference. Further, "[t]he identical invention must be shown in as complete detail as is contained in the...claim." See M.P.E.P. § 2131 (8th Ed., Aug. 2001), quoting *Richardson v. Suzuki Motor Co.*, 868 F.2d 1126, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989). Finally, "[t]he elements must be arranged as required by the claim." M.P.E.P. § 2131 (8th Ed. 2001), p. 2100-69.

Claim 1 recites a combination of steps including:

> calculating a gain in lifetime value for each of the plurality of new customers; and
>
> determining a focus for a loyalty and retention program based on at least one of the hazard function and gain in lifetime value for each of the plurality of new customers.

Bank Marketing fails to teach or suggest at least the above claimed steps. For example, *Bank Marketing* fails to teach or suggest at least "calculating a gain in lifetime value for each of the plurality of new customers," as claimed. The relied-upon portion of the reference merely mentions, as the Examiner notes, "looking at estimated customer lifetime value (LTV)" to "decide whether to keep and develop [a customer]." (Page 2: ¶ 11, lines 1-3; ¶ 12, lines 1-3). Evaluating customer lifetime value, as mentioned by *Bank Marketing*, does not constitute calculating a gain in lifetime value for each of a plurality of customers, as recited in claim 1. The Examiner alleges (OA, page 13) that "if one evaluates the estimated customer lifetime value

and determines that the customer should be kept and developed..., the result of this evaluation was a gain calculation." This statement does not support the allegation that *Bank Marketing* anticipates the "calculating" step of claim 1. It is unclear what "gain calculation" would occur in evaluating lifetime value and determining to retain/develop a customer, other than possibly recognizing potential losses from not retaining that customer. Even if evaluating lifetime value and determining to retain a customer amounted to a some sort of "gain calculation," such a calculation would not constitute calculating a gain in lifetime value. That is to say, deciding to retain and develop a customer based on lifetime value does not constitute calculating a gain in the lifetime value for a customer. Basing a decision on a customer's lifetime value is not consistent with calculating a gain in a customer's lifetime value, even if that decision is to retain and/or develop the customer.

In addition, *Bank Marketing* does not anticipate the "determining" step recited in claim 1. The Examiner alleges (OA, pages 13-14) that *Bank Marketing* mentions identifiable profits and policy change determinations, "which represents the focus for loyalty to customers who bank with that particular bank." Even if *Bank Marketing* were to disclose determining a "focus for loyalty to customers," such a functionality does not constitute "determining a focus for a loyalty and retention program based on...the gain in lifetime value for each of the...customers," as claimed.

As set forth above, anticipation under 35 U.S.C. § 102(b) requires that each and every claim element be disclosed in as complete detail as is in the claim by the applied reference. *Bank Marketing* does not teach each and every feature of independent claim 1 and therefore, as a matter of law, cannot anticipate this claim. Thus, the rejection of independent claim 1 under 35 U.S.C. §102(b) as anticipated by *Bank Marketing* should be withdrawn.

Each of independent claims 16, 31, and 46 recites subject matter that parallels subject matter recited in allowable claim 1. In particular, each of claims 16, 31, and 46 recites, *inter alia*:

> calculating a gain in lifetime value for each of the plurality of new customers; and
>
> determining a focus for a loyalty and retention program based on at least one of the hazard function and gain in lifetime value for each of the plurality of new customers.

For at least the reasons presented above in connection with claim 1, independent claims 16, 31, and 46 are patentable over the cited prior art.

Claims 3, 4, 13, 18, 19, 28, 33, 34, 43, 48, 49, and 58 are allowable for at least the same reasons as set forth in connection with allowable base claims 1, 16, 31, and 46, respectively. Applicants therefore request withdrawal of the rejection under 35 U.S.C. § 102(b) and the timely allowance of claims 1, 3, 4, 13, 16, 18, 19, 28, 31, 33, 34, 43, 46, 48, 49, and 58.

Rejection of claims 2, 5, 6, 14, 15, 17, 20, 21, 29, 30, 32, 35, 36, 44, 45, 47, 50, 51, 59, and 60

Applicants submit that a *prima facie* case of obviousness has not been established with respect to claims 2, 5, 6, 14, 15, 17, 20, 21, 29, 30, 32, 35, 36, 44, 45, 47, 50, 51, 59, and 60 based on *Bank Marketing*, *Sanders*, and *Canfield*. To establish a *prima facie* case of obviousness under 35 U.S.C. § 103(a), each of three requirements must be met. First, the references, taken alone or in combination, must teach or suggest each and every element recited in the claims. See M.P.E.P. § 2143.03 (8th ed. 2001). Second, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the references in a manner resulting in the claimed invention. Third, a reasonable expectation of success must exist. Moreover, each of these requirements must "be

found in the prior art, and not be based on applicant's disclosure." M.P.E.P. § 2143 (8th ed. 2001).

Initially, Applicants submit that *Canfield* is nonanalogous art and therefore an improper reference against Applicants' claims under 35 U.S.C. § 103(a). *Canfield* is not in the same field of endeavor as Applicants' claimed invention. *Canfield* is directed to reliability theory within the context of maintenance engineering. For example, *Canfield* mentions a hazard function in the context of preventative maintenance on a system. *Canfield* is dissimilar to the claims under examination, which are directed to evaluating customer value to guide loyalty and retention programs. Further, *Canfield* is not reasonably pertinent to the particular problem that the claims address. That is to say, *Canfield*, which is directed to system maintenance and degradation, would not logically have commended itself to an inventor's attention in considering the problems associated with evaluating customer value to guide loyalty and retention programs. Accordingly, *Canfield* is to be regarded as nonanalogous art and should not be used as a reference against the present claims under 35 U.S.C. § 103(a). For at least this reason, the rejection of claims 2, 5, 6, 14, 15, 17, 20, 21, 29, 30, 32, 35, 36, 44, 45, 47, 50, 51, 59, and 60 based on *Bank Marketing*, *Sanders*, and *Canfield* should be withdrawn.

Further, the rejection of claims 2, 5, 6, 14, 15, 17, 20, 21, 29, 30, 32, 35, 36, 44, 45, 47, 50, 51, 59, and 60 is ambiguous. For example, Applicants cannot discern how (if at all) the Examiner is applying *Canfield* to claims 2, 17, 32, and 47. The Examiner appears to rely on *Canfield* as a basis for rejecting claims 5, 20, 35, and 50, but the rejection is unclear, for example, with respect to claims 2, 17, 32, and 47. Should the Examiner continue to dispute the patentability of the pending claims, Applicants request that the Examiner provide clarification in the next Office Action (which should be <u>non</u>-final) as to the basis for rejection. This ambiguity

and *Canfield*'s status as nonanalogous art notwithstanding, a *prima facie* case of obviousness has not been established, as discussed below.

Claims 2, 5, 6, 14, and 15 depend from allowable base claim 1; claims 17, 20, 21, 29, and 30 depend from allowable base claim 16; claims 32, 35, 36, 44, and 45 depend from allowable base claim 31; and claims 47, 50, 51, 59, and 60 depend from allowable base claim 46. Claims 2, 5, 6, 14, 15, 17, 20, 21, 29, 30, 32, 35, 36, 44, 45, 47, 50, 51, 59, and 60 therefore include all of the elements recited in base claims 1, 16, 31, and 46, respectively. For at least the reasons presented above in connection with claim 1, *Bank Marketing* fails to teach or suggest each and every element recited in claims 1, 16, 31, and 46. *Bank Marketing* therefore fails to teach or suggest each and every element recited in dependent claims 2, 5, 6, 14, 15, 17, 20, 21, 29, 30, 32, 35, 36, 44, 45, 47, 50, 51, 59, and 60.

Further, neither *Sanders* nor *Canfield* (if *Canfield* were a proper reference), nor any combination thereof, cures all of the deficiencies of *Bank Marketing*. For example, neither *Sanders* nor *Canfield* teaches or suggests at least:

> calculating a gain in lifetime value for each of the plurality of new customers; and
>
> determining a focus for a loyalty and retention program based on at least one of the hazard function and gain in lifetime value for each of the plurality of new customers.

For at least this reason, a *prima facie* case of obviousness has not been established with respect to claims 2, 5, 6, 14, 15, 17, 20, 21, 29, 30, 32, 35, 36, 44, 45, 47, 50, 51, 59, and 60.

Moreover, with regard to claims 2, 17, 32, and 47, the Examiner concedes (Office Action, page 6) that *Bank Marketing* fails to disclose:

> ...based on contract terms and revenue generated for each of the plurality of new customers; and
>
> ...considering a new contract period.

The Examiner also concedes that *Bank Marketing* fails to disclose "determining...there is no effect on churn of a contract expiration," as recited in claims 5, 20, 35, and 50 (Office Action, page 6).

In rejecting Applicants' claims, the Examiner relies on *Sanders* in an attempt to cure the above deficiencies of *Bank Marketing*. *Sanders* describes an enterprise enhancement system that generates value enhancement solutions. Even if *Sanders* could cure the deficiencies of *Bank Marketing*—which the Office Action has not established and to which Applicants do not acquiesce—a *prima facie* case of obviousness has not been established with respect to claims 2, 5, 17, 20, 32, 35, 47, and 50 at least because the requisite motivation to combine is lacking.

Determinations of *prima facie* obviousness must be supported by a finding of "substantial evidence." *See In re Zurko*, 258 F.3d 1379, 1386 (Fed. Cir. 2001). Specifically, unless "substantial evidence" found in the record supports the factual determinations central to the issue of patentability, including motivation, the rejection is improper and should be withdrawn.

In this case, there is no "substantial evidence" in the record to support the alleged combination of *Bank Marketing* and *Sanders*, and the requisite "clear and particular" motivation to support a *prima facie* case of obviousness is lacking. The Examiner does not show that a skilled artisan having the cited art before him would have been motivated to combine the references in a manner resulting in Applicants' claimed invention.

According to the Examiner (OA, page 6), it would have been obvious to a skilled artisan

> ...to use the contract terms and revenue to calculate the lifetime value with the motivation of determining which customers are bound to an agreement for specified periods of time and using this information to truly calculate how long a customer will be a customer and how much revenue that customer can pull in for that determined time.

The Examiner further alleges (OA, page 14):

> the combination of *Sanders* and *Bank Marketing* is valid since *Sanders* deals with the generation of value enhancement solutions and Bank [M]arketing is directed towards analyzing customer behavior in order to increase profitability...the increase in profitability is the basis for value enhancement of the bank.

The above statements do not establish the required motivation to combine the references. That is to say, the Office Action does not show, by substantial evidence, that a skilled artisan having the art before him would have been motivated to combine *Sanders* and *Bank Marketing* in a manner resulting in the invention defined by claims 2, 5, 17, 20, 32, 35, 47, and 50. For example, the assertion that increase in profitability might serve as a basis for value enhancement does not establish the required motivation. The Office Action provides no evidence or reasoning to show why, other than to attempt to meet the terms of the claims, a skilled artisan would have been motivated to combine the references. Applicants also call attention to the following provisions of M.P.E.P § 2142:

> Knowledge of applicant's disclosure must be put aside ...impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art.

Moreover, with regard to claims 5, 20, 35, and 50, the Examiner concedes (OA, page 6-7) that neither *Bank Marketing* nor *Sanders* discloses: "based on the shape of the hazard function," as claimed. The Examiner, however, alleges that *Canfield* cures this deficiency. According to the Examiner (OA, page 7), it would have been obvious to a skilled artisan to "base the lifetime value on the shape of the hazard function with the motivation of supplying a visual form for determining this lifetime value information." As noted above, Applicants cannot discern how (if at all) the Examiner is applying *Canfield* to, for example, claims 2, 17, 32, and 47.

Canfield is not a proper reference within the context of 35 U.S.C. § 103(a) and therefore cannot properly be combined with *Bank Marketing* or *Sanders*. For at least this reason, the rejection under 35 U.S.C. § 103(a) should be withdrawn.

Even if, for the sake of argument, *Canfield* were a proper reference, Applicants submit that *Canfield* fails to disclose or suggest the features of claims 5, 20, 35, and 50. The relied-upon portion of *Canfield* (lines 9-20) states:

> A hazard function is developed here that is consistent with this concept of PM [preventative maintenance] effect. The special case for which PM reduces the operational stress to that of a new system is considered in greater detail. It is shown for this case that the hazard function under PM is approximately a 2-parameter Weibull with shape parameter 2 for systems with strictly increasing hazard without PM. Cost optimization of the PM intervention interval is obtained by determining the average cost-rate of system operation....

The Examiner provides no explanation or reasoning to support the conclusory statement that the above passage teaches or suggests Applicants' claimed features. Indeed, Applicants submit that neither *Bank Marketing*, *Sanders*, nor *Canfield*, nor any combination thereof, teaches or suggests the features of claims 5, 20, 35, and 50. That is, the cited art fails to teach or suggest at least "determining, based on the shape of the hazard function, there is no effect on churn of a contract expiration," as claimed.

Even if *Canfield* could cure the deficiencies of *Bank Marketing* and *Sanders* (to which Applicants do not acquiesce) there is no "substantial evidence" in the record to support the alleged combination, and the requisite "clear and particular" motivation to support a *prima facie* case of obviousness is lacking. The Examiner points to no evidence supporting the assertion that a skilled artisan having the art before him would have been motivated to combine *Bank Marketing*, *Sanders*, and *Canfield* in a manner resulting in Applicants' claimed invention. The Examiner merely provides a general description of how *Canfield* allegedly teaches certain

features and fails to provide more than conclusory statements, lacking evidentiary basis, to support a motive for combining the references. For example, the Examiner alleges that a skilled artisan would have combined the references to supply "a visual form of determining this lifetime value information." This statement is not supported by "substantial evidence" on the record, as the Examiner points to evidence in *Bank Marketing*, *Sanders*, or *Canfield* mentioning such a "visual form of determining...lifetime value information." Further, the Examiner fails to provide any explanation or reasoning to show how combining the references would yield a "visual form of determining...lifetime value information." Even if the alleged combination were to yield a "visual form of determining...lifetime value information," such a result would not provide the required motivation. The Office Action provides no evidence or reasoning to show why, other than to attempt to meet the terms of the claims, a skilled artisan would have been motivated to combine the references.

Claims 6, 21, 36, and 51 depend from claims 5, 20, 35, and 50. A *prima facie* case of obviousness has not been established with respect to claims 6, 21, 36, and 51 for at least the reasons presented above in connection with claims 5, 20, 35, and 50.

With regard to claims 14, 29, 44, and 59, the Examiner concedes (OA, page 7) that *Bank Marketing* fails to disclose: "clustering all of the hazard functions for each of the plurality of new customers so that hazard functions with similar shapes can be grouped together," as claimed. The Examiner also concedes that *Bank Marketing* fails to disclose "determining, based on the overall shape of the clustered hazard functions, what retention efforts to take to keep a new customer," as recited in claims 15, 30, 45, and 60 (OA, page 7. In rejecting claims 14, 15, 29, 30, 44, 45, 59, and 60, the Examiner relies on *Sanders* (see OA, page 7) and *Canfield* (see OA, page 15) for allegedly curing the deficiencies of *Bank Marketing*.

Despite the Examiner's allegations, neither *Sanders* nor *Canfield* teaches or suggests the features recited in claims 14, 15, 29, 30, 44, 45, 59, and 60. Thus, even if *Bank Marketing, Sanders*, and *Canfield* were combinable, the resultant combination would not yield all of the elements recited in claims 14, 15, 29, 30, 44, 45, 59, and 60. For at least this reason, a *prima facie* case of obviousness has not been established with respect to these claims.

In addition, there is no "substantial evidence" in the record to support the attempted combination of *Bank Marketing* and *Sanders*, and the requisite "clear and particular" motivation required to support a *prima facie* case of obviousness is lacking. The Examiner's statement that a skilled artisan would have combined the references to determine "the average solution for keeping a customer" (OA, page 7) does not provide the required motivation. For example, this statement is not supported by "substantial evidence" on the record, as the Examiner points to evidence in *Bank Marketing, Sanders,* or *Canfield* mentioning such an "average solution." Further, the Examiner fails to provide any explanation or reasoning to show how combining the references would yield the supposed "average solution." Even if the alleged combination were to yield an "average solution for keeping a customer," such a result would not provide the required motivation. The Office Action provides no evidence or reasoning to show why, other than to attempt to meet the terms of the claims, a skilled artisan would have been motivated to combine the references.

For at least the foregoing reasons, Applicants request withdrawal of the rejection under 35 U.S.C. § 103(a) and the timely allowance of claims 2, 5, 6, 14, 15, 17, 20, 21, 29, 30, 32, 35, 36, 44, 45, 47, 50, 51, 59, and 60.

Rejection of claims 7-12, 22-27, 37-42, and 52-57

As explained above, *Canfield* is nonanalogous art and therefore cannot properly be combined with *Bank Marketing* or *Sanders*. For at least this reason, the rejection of claims 7-12,

22-27, 37-42, and 52-57 based on *Bank Marketing*, *Canfield*, and *Sanders* should be withdrawn. *Canfield*'s status as nonanalogous art notwithstanding, a *prima facie* case of obviousness has not been established with respect to claims 7-12, 22-27, 37-42, and 52-57, as discussed below.

Claims 7-12 depend from allowable base claim 1; claims 22-27 depend from allowable base claim 16; claims 37-42 depend from allowable base claim 31; and claims 52-57 depend from allowable base claim 46. Claims 7-12, 22-27, 37-42, and 52-57 therefore include all of the elements recited in base claims 1, 16, 31, and 46, respectively. As explained above, *Bank Marketing* fails to teach or suggest each and every element recited in claims 1, 16, 31, and 46. *Bank Marketing* therefore fails to teach or suggest each and every element recited in dependent claims 7-12, 22-27, 37-42, and 52-57.

Further, as noted above, neither *Canfield* (if *Canfield* were a proper reference) nor *Sanders*, nor any combination thereof, cures all of the deficiencies of *Bank Marketing*. For at least these reasons, the rejection under 35 U.S.C. § 103(a) should be withdrawn.

Moreover, with regard to claims 7, 9, 22, 24, 37, 39, 52, and 54, the Examiner concedes (OA, page 8) that *Bank Marketing* fails to disclose:

> determining, based on the shape of the hazard function, that there is a small increase in probability of churn...with an elevated post-expiration churn; and
>
> determining, based on the shape of the hazard function, that there is a large spike indicating high probability of churn...and low probability of churn thereafter.

In rejecting claims 7, 9, 22, 24, 37, 39, 52, and 54, the Examiner relies on *Canfield* for allegedly curing the deficiencies of *Bank Marketing*[4]. According to the Examiner, it would have been obvious to a skilled artisan "to base the lifetime value on the shape of the hazard function

[4] The Examiner concedes (OA, page 8) that *Bank Marketing* and *Canfield* "fail to disclose...at contract expiration," as claimed.

with the motivation of supplying a visual form for determining this lifetime value information." (OA, page 8).

As explained above, *Canfield* is nonanalogous art and thus cannot properly be combined with *Bank Marketing*. For at least this reason, a *prima facie* case of obviousness has not been established. Even if *Canfield* were properly combinable with *Bank Marketing*, a *prima facie* case of obviousness has not been established at least because *Canfield* fails to cure the deficiencies of *Bank Marketing*. The Examiner alleges that an "increase in probability of churn [is] represented by system failure [as mentioned by *Canfield*]" (OA, page 8). Applicants disagree. The Examiner provides no evidence, beyond pure conjecture, to support the notion that system failure, as mentioned by *Canfield*, is consistent with an increase in probability of churn. Even if such an interpretation of *Canfield* were valid, the reference would nonetheless fail to teach or suggest at least the recitations:

> determining, based on the shape of the hazard function, that there is a small increase in probability of churn...with an elevated post-expiration churn; and
>
> determining, based on the shape of the hazard function, that there is a large spike indicating high probability of churn...and low probability of churn thereafter.

Further, even if *Canfield* were to disclose the features alleged by the Examiner, there is no "substantial evidence" in the record to support the alleged combination of *Bank Marketing* and *Canfield*, and the requisite "clear and particular" motivation to support a *prima facie* case of obviousness is lacking. For at least the reasons presented above, the requisite motivation to combine *Bank Marketing*, *Sanders*, and *Canfield* in a manner resulting in Applicants' claimed invention is lacking. The allegation that a skilled artisan would combine *Bank Marketing* with *Canfield* "with the motivation of supplying a visual form of determining this lifetime value information" is not supported by "substantial evidence" on the record and does not provide the

requisite motivation. For at least these reasons, a *prima facie* case of obviousness has not been established with respect to claims 7, 9, 22, 24, 37, 39, 52, and 54.

With regard to claims 8, 10-12, 23, 38, 25-27, 40-42, 53, 55, and 57, the Examiner concedes (OA, page 9) that neither *Bank Marketing* nor *Canfield* discloses the features recited in these claims. The Examiner, however, alleges that *Sanders* cures the deficiencies of *Bank Marketing* and *Canfield*. Applicants submit that a *prima facie* case of obviousness has not been established for the following reasons.

As described above, *Canfield* is nonanalogous art and therefore cannot properly be combined with *Bank Marketing* or *Sanders*. For at least this reason, the rejection of claims 8, 10-12, 23, 38, 25-27, 40-42, 53, 55, and 57 should be withdrawn.

Further, even if *Bank Marketing*, *Canfield*, and *Sanders* were properly combinable and the resultant combination were to yield all of the features recited in claims 8, 10-12, 23, 38, 25-27, 40-42, 53, 55, and 57—Applicants disputing both notions—there is no "substantial evidence" in the record to support the alleged combination of *Bank Marketing*, *Canfield*, and *Sanders*, and the requisite "clear and particular" motivation required to support a *prima facie* case of obviousness is lacking. The Examiner alleges that a skilled artisan would have combined the references to "[keep] dedicated customers" (OA, page 9). This conclusory statement is not supported by "substantial evidence" on the record and does not provide the requisite motivation. The Office Action provides no evidence or reasoning to show why, other than to attempt to meet the terms of the claims, a skilled artisan would have been motivated to combine the references. For at least these reasons, a *prima facie* case of obviousness has not been established with respect to claims 8, 10-12, 23, 38, 25-27, 40-42, 53, 55, and 57.

For at least the foregoing reasons, Applicants request withdrawal of the rejection under 35 U.S.C. § 103(a) and the timely allowance of claims 7-12, 22-27, 37-42, and 52-57.

New claims 61-65

New independent claim 61 recites a method including:

> calculating, for each of the plurality of new customers, a gain in lifetime value from a retention effort; and
>
> determining a focus for a loyalty and retention program based on at least one of the hazard function and gain in lifetime value for each of the plurality of new customers.

The relied-upon references, either taken alone or in any combination, fail to teach or suggest at least the above-noted recitations. New claim 61 is thus allowable.

New independent claim 63 recites a combination of elements including:

> identifying a temporal-based retention effort based on the hazard function for each of the plurality of customers; [and]
>
> calculating, for each of the plurality of customers, an expected gain in value from the identified retention effort.

The relied-upon references, either taken alone or in any combination, fail to teach or suggest at least the above-noted recitations. New claim 63 is thus allowable.

New claims 62, 64, and 65 depend from claims 61 and 63, respectively. Claims 62, 64, and 65 are allowable at least by virtue of such dependency. The relied-upon references fail (alone and in combination) to teach or suggest each and every element recited in claims 62, 64, and 65. Applicants therefore request the timely allowance of new claims 61-65.

Conclusion

In view of the foregoing, Applicants respectfully request the reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 07-2347.

Respectfully submitted,

Dated: February 25, 2004

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